Response to Amendment

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/14/2008 has been entered.

Claims 1-2, 4-12 and 14-22, 27-28 are pending for examination.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

As to claims 17-22, the claimed subject matter "computer readable storage medium" is lacking of antecedent basis, because it is not defined in the instant specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

As set forth in MPEP 2106(II)A:
Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96),' In re Ziegler, 992, F.2d 1 197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 199334. Accordingly, a complete disclosure should contain some indication of the <u>practical application</u> for the claimed invention, i.e., why the applicant believes the claimed invention is useful.
Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result aspect of the practical application requirement. See Arrhythmia, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file <u>stored on a disk</u> may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some <u>"real world"</u> value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.
The claimed invention is subject to the test of State Street, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically State Street sets forth that the claimed invention must produce a "useful, concrete and tangible result". The Interim Guidelines for Examination of Patent Applications for Patent Subject Maher Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):
The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. Benson, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application").

Claims 1-2, 4-12 and 14-22 and 27, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As to claims 1-2, 4-12 and 27, these claims recite a "mapping method of classifying a plurality of information items in an information retrieval system" at the preamble, however, the body of the claims fail to reflect any mapping or classifying

utility as cited in the preamble, as such, these claims merely represent an abstract idea

that fails to provide a practical real-world application.

As to claims 14-16, these apparatus claims recite the limitations of instant

invention in form of means plus functions, however, the instant disclosure fails to map

the specific physical means to the claimed functions, as such, the claimed means

seemed to be software per se without having any hardware device to perform the

claimed functions, which render the claimed subject matters as non-statutory.

As to claims 17-22, since the specification does not clearly define which forms

the claimed computer readable storage medium may take. Such a medium may take

many forms, including, but not limited to, non-volatile, volatile and transmission media

etc… If the computer readable storage medium may take the form of the transmission

signal, this would render these claims not statutory because it's not tangle. Because

these claims lack the necessary definition of the claimed medium to constitute a

machine or a manufacture within the meaning of 35 USC 101. They are clearly not a

series of steps or acts to be a process nor are they a combination of chemical

compounds to be a composition of matter. As such, they fail to fall within a statutory

category. They are, at best, functional descriptive material per se.

To expedite a complete examination of the instant application the claims rejected

under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in

anticipation of applicant amending these claims to place them within the four statutory

categories of invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

Claims 1-2, 4-12, are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

As to claim 1, what does the claimed "said ensemble of algorithms" refer to (i.e.,

this claim cited "applying an ensemble of algorithms to determine an integer-values

weight of first and second information items" at lines 6-7, it also cited "applying an

ensemble of algorithms to said first and second information items relative to said

integer-value weight of said relationship link" at lines 14-15, which one is the claimed

"said ensemble of algorithms" at line 16 refer to? In addition, what is the metes and

bounds of the claimed "algorithms"? How to ensemble the claimed algorithms?)

Furthermore, what is the claimed "the output of said ensemble of algorithms" (i.e.,

Because applicant fails to specify what algorithms was ensemble, thus, it renders the

output of the claimed subject matter to be indefinite).

As to claim 9, what does it meant by "said relationship link is positioned in a list in direct proportion to the degree of consensus among said ensemble of algorithms" (i.e., what is the metes and bounds of the claimed "a list" and "ensemble of algorithms"? which unit measure the degree of consensus among said ensemble of algorithms and how to do it?)

As to claims 2, 4-12 and 27, these claims have the same defects as their base claim 14, hence are rejected for the same reason.

Because the ambiguous nature of instant invention, the following art rejection is to the best that the examiner is able to ascertain.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-12, 14--22 and 27-28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Horvitz et al. (U.S. Patent No. 6,182,133) in view of Wical (U.S. Patent No. 5,940,821).

As to claim 1 and 28, Horvitz et al. (hereinafter referred as Horvitz) discloses a method as claimed by applicant, comprising:

identifying a first/second informational item; [e.g., the use of URL and a web search engine to identify user's favorite pages at col. 1, lines 41-43 & col. 43, lines 57-63];

applying an ensemble of algorithms to determine a relationship link between said first and second informational items [e.g., a statistical analyses of usage log data of a user model including Bayesian models at col. 27, lines 28 – col. 28, lines 30, col. 43, lines 9-37];

detecting an access of first information item [e.g., the Web Server Application Programs 80, Fig. 1; Fig. 16 and associated text; col. 47, lines 9-18];

detecting an access of a second informational item [e.g., the Browser Application program 30, Fig. 1; Fig(s) 6 and associated text];

establishing that a relationship link exists between said first informational item and second informational item [e.g., the use of hypertext link to establish relationship between Web pages at col. 1, lines 47-59; the hotlink at col. 8, line 31- col. 9, line 7].

determine an integer-weight based on the historical frequency of the relationship link [e.g., the user modeling processing that determines the numerical ranking of URLs based on historical logged data of page transitions across all individuals site visiting activities or Bayesian model encoding processing at col. 4, lines 30-47];

applying an ensemble of algorithms to said first informational item and said second informational item [e.g., User modeling comprising the Bayesian model or a

Hidden Marko model that collectively containing a set of predefined rules or functions to generate a weight (or likelihood estimates) applied over a set of URLs and /or corresponding web page components at col. 28, lines 8-14];

assigning the weight (or likelihood estimates) to the output of said ensemble of algorithms [e.g., col. 43, lines 9-37];

storing the output of said ensemble of algorithms [e.g., the units: 1605, 1608, 1660, Fig. 16 and associated texts].

Horvitz does not specifically disclose that the weight (or likelihood estimates) is related to an integer-value.

However Wical (U.S. Patent No. 5,940,821) discloses an information item retrieval system with the link relationship weight represented as integer [e.g., Abstract, col. 12, lines 15 – 51; Fig(s). 4, 9a and associated texts].

Horvitz and Wical are both endeavor to optimize an informational document classification mapping of an information query and retrieval system via managing World Wide Web page browsing and correlation activities over open network, therefore, with the teachings of Horvitz and Wical in front of him/her it would have been obvious for an ordinary skilled person in the art at the time the invention was made to be motivated to apply the well known integer-value weight as disclosed by Wical into Horvitz's information retrieving and classification system, because by doing so, the combined system will be upgraded to have integer-value weight associate with the relationship link between informational items, such that it would facilitate the outcome calculation of

ensemble algorisms during informational items classification mapping of the combined system.

As to claim 2, except all the features recited in claim 1 above, the combined system of Horvits and Wical further discloses that the step of identifying and detecting the second informational item includes the identifying and detecting of a plurality of informational items [e.g., Horvits: the web server, col. 1, lines 41-67, col. 4, lines 20-47].

As to claims 4 and 27, except all the features recited in claim 2 above, the combined system of Horvits and Wical further discloses that the step of applying an algorithm for data aging wherein the usage of the relationship link is monitored and used as feed back for the weight associated with the relationship link [e.g., Horvits: col. 5, lines 38-52]; wherein, the data aging runs as a function of traffic load to age the relationship links according to relevance of the relationship links [e.g., Horvits: Fig.(s) 17A-C and associated texts].

As to claims 5-6, except all the features recited in claim 4 above, the combined system of Horvits and Wical further discloses that the step of applying a repeatedly pruning algorithm wherein external information regarding the usefulness of at least one relationship link is utilized to modify the existence of a recorded relationship link and determine if a recorded relationship link should be removed [e.g., Horvits: the refinement processing at col. 4, lines 50-62; col. 5, lines 11-18; lines 55-60].

As to claim 7, except all the features recited in claim 5 above, the combined

system of Horvits and Wical further discloses that the step of applying said pruning

algorithm makes use of a user determined feedback of the usefulness of a relationship

[e.g., Horvits: col. 28, lines 3-22].

As to claim 8, except all the features recited in claim 2 above, the combined

system of Horvits and Wical further discloses that said ensemble includes a plurality of

algorithms and wherein said relationship link integer-value weight is adjusted in

direction proportion to the number of algorithms within said ensemble of algorithms that

determine the existence of said relationship link [e.g., Wical: Fig. 5 and associated

texts].

As to claim 9, except all the features recited in claim 2 above, the combined

system of Horvits and Wical further discloses that said relationship link is positioned in a

list in direct proportion to the degree of consensus among said ensemble of algorithms

[e.g., Horvits: col. 10, lines 47-61].

As to claim 10, except all the features recited in claim 2 above, the combined

system of Horvits and Wical further discloses that said ensemble includes a plurality of

algorithms and each of said algorithms runs independently of all other algorithms [e.g.,

Horvits: col. 11, lines 6-12].

As to claim 11, except all the features recited in claim 2 above, the combined

system of Horvits and Wical further discloses the step of merging the outputs of said

ensemble of algorithms [e.g., Horvits: col. 12, lines 1-20, Fig. 2 and associated texts].

As to claim 12, except all the features recited in claim 2 above, the combined

system of Horvits and Wical further discloses the step of recording said relationship link

in a non-Bayiesian-type network [e.g., Wical: the unit 115, Fig. 2 and associated texts;

Fig. 4 and associated texts].

As to claims 14-22, these claims recited the same features as claims 1-12 and 27

in form of computer apparatus or a readable storage medium product, hence are

rejected for the same reason.

Response to Arguments

Applicant's arguments based on newly amended limitations as filed on

01/14/2008, have been fully considered but they are not persuasive.

The examiner disagrees with applicant's arguments and piecemeal interpretation

that 'Horvitz reference does not disclose, teach or suggest the steps of "identifying a

first informational item, identifying a second informational item, applying an ensemble of

algorithms to determine an integer-weight relationship link between said first and

second informational items" as recited in claim 1'.

In response to these arguments, the Office first points out that one cannot show

nonobviousness by attacking references individually where the rejections are based on

combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA

1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). In addition,

the examiner noted that applicant's fails to define the metes and bounds of the claimed

"a first informational item" and "a second informational item", as such, the claimed

informational items are open for reasonable art interpretation, and the examiner regards

any data items of a web page read on the claimed first and second informational items.

Furthermore, as cited in the above paragraphs, Horvitz specifically discloses the

techniques of a web search engine that applies Universal Resource Locator (URL) to

identify a user's favorite pages as the claimed first/second informational items; [e.g., col.

1, lines 41-45 & col. 43, lines 9-63].

In addition, the claimed detecting accessing of the first or second information

items are deemed being realized by the navigation of Web pages via the Browser

Application program (30, Fig. 1) and Web Server Application Programs (80, Fig. 1)

interfaces (e.g., 50, Fig. 1) over Internet as shown by Horvitz.

Moreover, Horvitz specifically discloses the use of "probabilities user models" or

"Bayesian model" for applying an ensemble of algorithms to determine a relationship

link between said first and second informational items [e.g., col. 27, lines 28 – col. 28,

lines 30, col. 43, lines 9-37]. Additionally, Wical discloses an information item retrieval

system with the link relationship weight represented as integer [e.g., Abstract, col. 12, lines 15 – 51; Fig(s). 4, 9a and associated texts] Hence, one of ordinary skill in the art at the time the invention was made would in fact, contrary to applicant's arguments, look to incorporate Wical's integer relationship weight representation schema in Horvitz's system for clearly details the online analysis processing, Thus, in contrary to applicant's arguments, the examiner contends that there would be most definitely a reasonable expectation of success.

As to the rest of arguments applicant either rehashes issues already addressed on record, or fails to claim the novelty of instant invention. Because the ambiguous nature of instant invention, plus applicant does not clearly point out the patentable novelty that he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. Further, they do not show how the amendments avoid such references or objections. The examiner concludes that the prior art read on the claimed features

Conclusion

To expedite the process of re-examination, the examiner requests that all future correspondences in regard to overcoming prior art rejections or other issues (e.g. 35 U.S.C. 112) set forth by the Examiner prior to the office action, that applicant should provide and link to the most specific page and line numbers of the disclosure where best support is found (see 35 U.S.C. 132).

Points of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan Y. Chen whose telephone number is 571-272-4016. The examiner can normally be reached on Monday - Friday from 7:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mofiz Apu can be reached on 571-272-4080. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Susan Y Chen/
Partial Sig. Examiner, Art Unit
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